



18026

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Gianni Collina et al.

Serial No.: 09/936,111

Filed: January 16, 2002

For: MULTI-STAGE PROCESS FOR THE  
(CO)POLYMERIZATION OF OLEFINS

Examiner: L. N. C. Caixia

Art Unit: 1713

May 3, 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313 1450RULE 132 DECLARATION

I, Gianni Collina, do hereby declare that:

1. I am Gianni Collina.
2. THAT in 1986 I received the degree of Industrial Chemistry from the Faculty of Industrial Chemistry of the University of Bologna, in Italy.
3. THAT since 1988 I have been continuously employed by Montell Italia SpA (now Basell Italia SpA) or its predecessors and in connection with such employment have been particularly involved in research activity in the field of polyolefin industry, particularly devoted to the study of catalyst components for olefin polymerization.
4. That I am a co-inventor in more than 20 patents/patent applications in the field of polyolefins and catalysts and processes for their preparation and I have been co-author of about 20 publications relating to the same.
5. THAT I am one of the inventors and familiar with the disclosure and the claims of the above-identified application Serial No 09/936,111.



THAT in a polymerization process for preparing a polyolefin, either in a gas-phase or a liquid-phase, the reaction kinetics are dependent on the reaction temperature and the monomer concentration established in the polymerization reactor, when hydrocarbons are used as inert diluent for the process.

7. THAT example 1 and comparative example 2 of Application Serial No 09/936,111 are comparable as regards the results achieved in term of catalyst activity and branching tendency, since both examples were carried out at a monomer concentration of 1.17 mol/l and at the reaction temperature of 55°C. Further, in both examples, linear hydrocarbons were used (propane in Ex. 1 and hexane in Comp. Ex. 2) as inert diluents. Although the former is gaseous and the latter is liquid in the polymerization conditions, both of the diluents are nonpolar solvents and do not form H-bonds. Therefore, they do not significantly promote the solvation of the polymerizing active sites. As a consequence, the polymerization kinetics are not affected by the presence of the above nonpolar solvents.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that further these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the present application or any patent resulting therefrom.

Signed this 3<sup>rd</sup> day of May, 2004

Gianni Collina